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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,723

12/30/2004

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534P013

9665

42754 7590 04/20/2009
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EXAMINER

CREPEAU, JONATHAN

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/509,723	Applicant(s) DEITERS ET AL.	
	Examiner Jonathan Crepeau	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 7-18, 20 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 19, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office action addresses claims 1-21 and newly added claims 22 and 23. Claims 7-18, 20, and 21 remain withdrawn from consideration. Claims 1-6 and 19 remain rejected for the reasons of record, and claims 22 and 23 are newly rejected under 35 USC 103. Accordingly, this action is made final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pemsler et al (U.S. Patent 4,592,973) in view of Applicant's admitted prior art ("AAPA").

Pemsler et al. is directed to a separator for an electrochemical device. The separator comprises a microporous thermoplastic film such as polypropylene (see col. 6, line 6) and a liquid phase including a polar solvent such as n-decanol (col. 11, line 35) and/or non-polar solvents such as toluene or kerosene (col. 11, line 39). N-decanol falls within all the parameters of the elected species set forth in the instant claims and as such reads on the claimed species.

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Furthermore, the non-polar solvents are considered to be "oils"; for example, the disclosure of kerosene is tantamount to paraffin oil.

Pemsler et al. do not expressly teach that the thermoplastic has a molecular weight of at least 300,000, or the weight percentages of the components as recited in claim 1.

In the instant specification, paragraphs [0006] and [0007], AAPA discloses that ultra-high molecular weight polyethylene having a weight of $5-7 \times 10^6$ g/mol is customarily used to produce separators.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. It is noted that microporous polyethylene is specifically contemplated in Pemsler et al (see Table II), and the use of a high-molecular weight polyethylene as suggested by AAPA would have provided a predictable result; namely the delaying of oxidative degradation of the separator (see [0006] of AAPA).

In addition, although Pemsler et al. do not expressly teach that the oil is present in an amount of 5-35 wt% and the solvent (i.e., n-decanol) is present in an amount of 0.5-5.0 wt% of the total separator weight, it would be obvious to manipulate the amount of each material to affect, for example, ion conductivity (see col. 12, line 1 et seq). It has been held that the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980). Furthermore, the reference discloses that the liquid content of the separator is typically in the range of 40-70

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volume % (col. 6, line 11). Starting from this disclosure, the artisan could routinely optimize the content of each liquid on a weight basis. Accordingly, the ranges recited in claim 1 are considered to be obvious to a skilled artisan.

4. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pemsler et al in view of AAPA as applied to claims 1-6 and 19 above, and further in view of McClain et al (U.S. Pre-Grant Publication No. 2002/0055323).

Pemsler et al. further teach that the solvent can include "many organic compounds" such as n-decanol; however, the reference does not expressly teach that the solvent comprises an alcohol having 12-75, or 14-40 carbons as recited in claims 22 and 23.

McClain et al. is directed to chemical mechanical planarization. In [0064], the reference teaches that a preferable solvent is a C₁₀ to C₂₀ linear, branched, or cyclic alkane, alcohol, or ether.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would have been sufficiently skilled to use a solvent suggested by McClain et al. as the solvent of Pemsler et al. Specifically, the disclosure of McClain et al. indicates that alcohols having 10 to 20 carbon atoms are suitable organic solvents. Furthermore, it has been held that "a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If the leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense," and

that choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success is generally within the skill of the art. *KSR v. Teleflex*, 82 USPQ2d 1385, 127 S. Ct. 1727 (2007). In addition, it is noted that Pemsler et al. teach transport agents including molecules having 18-24 carbon atoms or 24-27 carbon atoms (see column 10). Accordingly, the suitability of using relatively large solvent molecules in the separator of Pemsler is also suggested by the reference.

Response to Arguments

5. Applicant's arguments filed February 13, 2009 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a lead-acid battery) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, Applicant's argument that Pemsler does not identify the amount of the components as result-effective for high oxidation stability is not persuasive, as Pemsler identifies the solvent component as providing ionic conductivity (see col. 12). Thus, the amount of the component could be manipulated to affect ionic conductivity of the separator. Furthermore, Pemsler teaches in column 6, line 11 that the total liquid content of the separator is "more typically 40-70 volume %." This liquid includes both the solvent (which can be plural solvents including n-decanol and

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kerosene) and a transport agent. Accordingly, the reference at least provides a starting point for the skilled artisan to modify the weight of n-decanol with respect to the total weight of the separator.

In addition, although Applicant's argument of improved oxidation stability is noted, it is submitted that Applicant must provide a comparison to the closest prior art (Pemsler) in order to demonstrate evidence of this. Currently there does not appear to be a comparison of the invention to a separator containing the features disclosed or suggested by Pemsler.

Finally, Applicant is advised that an amendment to the claims to recite a "lead acid battery" will not be entered as a matter of right, even if a Request for Continued Examination is filed, since this subject matter has been held to be non-elected (see for example, withdrawn claim 14).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jonathan Crepeau/
Primary Examiner, Art Unit 1795
April 20, 2009